



**GASTROENTERIC OUTBREAK AMONG ATTENDEES OF
ANNIVERSARY PARTY IN RESTAURANT
SHAWNEE COUNTY, KANSAS
JUNE 2005**

FINAL REPORT DATE

July 13, 2005

INVESTIGATORS

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REPORTED BY

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BACKGROUND

On June 17, 2005, a complaint of a possible foodborne outbreak associated with Restaurant X was reported to the Kansas Department of Health and Environment's (KDHE) Epidemiology Services Section (ESS) by a Bureau of Consumer Health (BCH) food inspector. The complainant stated ten individuals experienced illness after eating food at Restaurant X on June 12th. Individuals ate at this restaurant as part of a group of 25 for an anniversary party, with food served to the group "family style" in large bowls. Preliminary information revealed 10 individuals experienced diarrhea and vomiting approximately 36 to 72 hours after consuming the food at Restaurant X. Other symptoms included abdominal cramps, nausea, and fever. The KDHE Bureau of Consumer Health (BCH) and ESS notified the Shawnee County Health Agency's (SCHA) epidemiologist.

METHODS

On June 20, 2005 the Epidemiologist at the SCHA interviewed the complainant and 11 other ill individuals from the party using the standard seven-day enteric questionnaire. The information gathered in these interviews was used to create a line listing of cases, which was then used to develop the case definition. A case was defined as an individual who ate at Restaurant X and became ill between June 14 and 15 with symptoms of abdominal cramps, diarrhea, vomiting and nausea.

One case submitted a stool sample upon a visit to a local hospital. Six other individuals were willing to submit stool samples. Three of these individuals were from the state of Ohio and three were from Shawnee County. KDHE contacted the Ohio Department of Health Foodborne Epidemiologist to request assistance with obtaining these samples.

KDHE's Bureau of Consumer Health (BCH) conducted an inspection of Restaurant X on June 17. No food samples were available for laboratory testing.

RESULTS

Of the 12 individuals interviewed over the course of the investigation, 10 met the case definition. The incubation period for the infection ranged from 40 – 77 hours, with an average incubation period of 52.5 hours.

The stool sample submitted by one case was negative for enteric bacteria and parasites. The sample was destroyed before it was submitted to the KDHE Lab for Norovirus testing. Three samples from individuals in Shawnee County were not obtained due to difficulties with submission of stool kits to those individuals. The sample obtained from one case in Ohio was positive for Norovirus.

During the restaurant inspection, the inspector observed several critical violations including hand washing, improper hot and cold holding, date markings, cross contamination and improper chemical storage. Measures were taken, including education and disposal of food to correct these critical violations on site, with verification by the inspector. The restaurant was to be reinspected on approximately June 24th.

Restaurant X and SCHA did not receive any other complaints from restaurant patrons.

DISCUSSION

Though initial information implicated the Restaurant X group meal as the source of illness, other sources of infection may exist. First, other common meals may have been eaten either prior to or following the meal at Restaurant X. Person-to-person transmission among the 12 ill individuals is also possible. This investigation revealed at least 2 individuals with an illness onset date later than June 18, suggesting the possibility of secondary transmission. Individuals with onset dates after June 18th were not included as cases in this investigation.

Investigations of several documented outbreaks, particularly those caused by Norovirus (average incubation period of 24 – 48 hours, range of 15 – 77 hours), suggest that infection may be spread through inhalation of aerosolized vomitus^{1,2,3}. However, additional data would be needed to better assess the possibility of infection from exposure to vomit in this outbreak.

Finally, other, unidentified exposures may have been the source of infection.

CONCLUSION

A gastroenteric outbreak occurred among approximately 13 extended family members who consumed at least one common meal from Restaurant X. The illnesses presented with similar symptoms with varying onsets and duration. The suspected etiology of the outbreak is Norovirus. The vehicle of transmission could not be definitively determined due to the lack of food histories of the members of the group and the possibility of other common exposures among the 10 cases.

Attachments: Table 1: Case Illness History

¹ Caul EO. Small round structured viruses: airborne transmission and hospital control. *Lancet* 1994;343:1240–2.

² Chadwick PR, McCann R. Transmission of a small round structured virus by vomiting during a hospital outbreak of gastroenteritis. *J Hosp Infect* 1994;26:251–9.

³ Marks PJ, Vipond IB, Carlisle D, Deakin D, Fey RE, Caul EO. Evidence for airborne transmission of Norwalk-like virus (NLV) in a hotel restaurant. *Epidemiol Infect* 2000;124:481–7.

Table 1: Case Illness History

Case	Age	Gender	Symptoms *	Date Onset	Time Onset	Incubation Period	Recovery Date
1	30	F	D V N S F	6/14/05	1900	52 hrs	6/17/05
2	10	F	D V N S	6/15/05	2000	77 hrs	6/17/05
3	43	M	D V N S	6/15/05	UNK	57-81 hrs	6/19/05
4	16	M	D V N S F	6/14/05	2000	53 hrs	6/16/05
5	22	F	D V N S	6/16/05	UNK	82-106 hrs	6/17/05
6	81	F	D V N S F	6/15/05	0600	63 hrs	6/18/05
7	28	M	D V N S F	6/14/05	1400	47 hrs	6/17/05
8	26	F	D V N S F	6/14/05	1500	48 hrs	6/16/05
9	58	F	D V N S	6/14/05	0700	40 hrs	6/16/05
10	20	M	D V N S F	6/14/05	0700	40 hrs	6/17/05

V = Vomitting; D=Diarrhea; N = Nausea S=Stomach Cramps F = Fever